

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of  
**DeRosier et al.**

Serial No.: **09/945,096**

Filed: **August 31, 2001**

For: **System and Method for Sociometric Data  
Collection and Analysis**

Docket No: **4846-001**

PATENT PENDING

Examiner: Scott L. Jarrett

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Commissioner for Patents  
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October 18, 2006

Date

Season E. Munck

This correspondence is being:

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**RULE 1.131 DECLARATION OF MR. THOMAS**

I, Jim Thomas, hereby declare as follows:

1. I am a co-inventor of the invention disclosed and claimed in U.S. Patent Application Serial No. 09/945,096, filed August 31, 2001.
2. At least as early as November 1999, I had numerous discussions with Dr. DeRosier regarding sociometric analysis of schoolchildren, her inventive ideas for performing much of the sociometric survey and analysis tasks on a computer, and the need for statistical computations as part of such analysis. Dr. DeRosier and I discussed the sociometric survey process, the type of data collected, and how interrelationship of the data may be analyzed and exploited to yield sociometric classifications. Under Dr. DeRosier's direction, I developed the C-SCAN software to implement Dr. DeRosier's invention. I doing so, I conceived of and implemented the statistical analysis necessary to yield the desired results from collected sociometric data.

3. Attached as Exhibit 1, and incorporated herein by reference, is a chronology of the development of the sociometric data collection and analysis software, known as the 3-C SCAN program. Included in Exhibit 1 are screen shots of directory listings on the computer on which the software was developed. As Exhibit 1 describes, a pre-release version of the software (3c-alpha) was created at least as early as January 1, 2000. Successive pre-release versions (3c-beta through 3c1-beta), each incorporating additional functionality as the respective software modules were developed and tested, were created between January and August 2000.

4. The screen shots of Exhibit 1 are the only remaining documentary evidence of the software development process. The 3-C SCAN software was developed on two computers. One computer experienced a hard drive failure, and all data were lost. The files associated with the 3-C SCAN software development were deleted from the other computer, after the software development was complete and they were no longer needed, to make room for installation of other software. Accordingly, the files from the software development effort no longer exist.

5. A rough chronology of the software development, reconstructed from memory and with reference to the directory listings of Exhibit 1, is set out below.

November 1999 - February 2000: Created a main window for entering the study parameters, teacher names, and student names.

February 2000 - April 2000: Calculate Z-scores, do sociometric classifications on entire grade, dump the results to the console window.

May 2000 - June 2000: Add save file capability so that data can be stored and re-entered.

Allow sociometric results to be written to a comma-separated-values file to be read into SAS.

July 2000 - August 2000: Add print capability for data entry forms. Fix alphabetization scheme for student names. Customize sociometric descriptions. Add file dialogs for save files.

September 2000: Add appropriate interlock checks so that data cannot be mistakenly modified after phases in which it is used. Add warning dialogs.

October 2000: Fix the way buttons' colors change as they are selected and de-selected and switch from hard-coded color definitions to profile-based colors. Fix all kinds of bugs.

6. While it is impossible to state with certainty the precise date on which any individual claimed idea may have been conceived, I worked on the statistical mathematics over the spring 2000, and all of the statistics was implemented in pre-release versions of the software by May 2000. All of the claimed limitations – those conceived by Dr. DeRosier as well as my own contributions – were implemented in a fully functional pre-release version of the software by August 2000. During September and October 2000, I added data interlocks, warning dialogs, color management and other user-interface features that are not claimed. Accordingly, the conception of all inventive ideas I contributed to the project occurred as early as November 1999 and were complete by August 2000, and the invention was reduced to practice by August 2000.

7. The code for the releasable version 1.0 of the software was complete by October 11, 2000, as evidenced by the third screen shot of Exhibit 1, showing that the file *FileLev3CData.java* was last edited on that date. This file contained the Java source code for the program. The file *3C.ve2*, shown in the third screen shot of Exhibit 1 with a modification date of October 22, 2000, is a file that the VisualCafe development environment automatically updates each time code is compiled or a build file is produced.

8. As early as November 1999 and prior to August 2000, I conceived of a method of analyzing responses to sociometric questionnaires from a group of schoolchildren comprising summing the total nominations that each schoolchild received from other schoolchildren for each question, and standardizing that sum within the group. At that time, I further conceived of summing and standardizing nominations for a schoolchild from at least two questions, to generate a First Standardized Factor (SF1) and a Second Standardized Factor (SF2). I conceived of computing a first score by subtracting the schoolchild's SF1 from that schoolchild's

SF2, and computing a second score by summing the schoolchild's SF1 and that schoolchild's SF2, and standardizing the first and second scores by the nominating group to generate a First Standardized Score (SS1) and a Second Standardized Score (SS2). At least as early as November 1999, in consultation with Dr. DeRosier, I conceived of classifying the schoolchild into one of six sociometric social classifications according to the following rules:

First Sociometric Class:  $SS1 > 1$ ,  $SF1 < 0$ , and  $SF2 > 0$ ;

Second Sociometric Class:  $SS1 < -1$ ,  $SF1 > 0$ , and  $SF2 < 0$ ;

Third Sociometric Class:  $SS2 < -1$ ,  $SF1 < 0$ , and  $SF2 < 0$ ;

Fourth Sociometric Class:  $SS2 > 1$ ,  $SF1 > 0$ , and  $SF2 > 0$ ;

Fifth Sociometric Class:  $-0.5 < SS1 < 0.5$  and  $-0.5 < SS2 < 0.5$ ; and

Sixth Sociometric Class: all others.

In particular, Dr. DeRosier and I conceived that SF1 is generated from nominations indicating the schoolchild is Least Liked, and that SF2 is generated from nominations indicating the schoolchild is Most Liked. I further conceived of calculating probability scores for each of the six sociometric social classifications indicative of the reliability of the schoolchild's social classification within the respective group. Dr. DeRosier and I further conceived of calculating strength scores for each schoolchild indicative of the degree to which the schoolchild's social classification within the six respective sociometric classifications is fixed versus fluid. I also conceived calculating probability scores associated with the sociometric classifications.

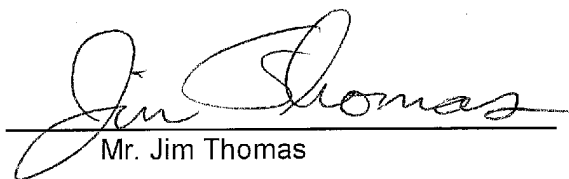
9. I personally developed the 3-C SCAN software, in constant consultation with Dr. DeRosier. Planning for and implementation of the software was pursued diligently from our conception of the inventive ideas from November 1999 through August 2000, until reduced to practice in a fully functional pre-release version in August 2000. Non-claimed enhancements were added, and coding for a releasable version of the software was complete by October 11, 2000. The program was last compiled on October 22, 2000. The software embodies the

invention claimed in U.S. Patent Application Serial No. 09/945,096, of which I am a named co-inventor.

I hereby declare that all statements made herein of my knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under §1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

10/18/2006

Date

  
Mr. Jim Thomas

## Early History of the 3-C SCAN Program

This document describes the early development of 3-C SCAN by me, Jim Thomas. I have included screen captures from the computer I used to create SCAN that show the modification dates for the files and folders. Note that each modification date shows the latest change to a particular file or folder. Actual coding began several months prior to these dates and conceptualization of the product, including design and methods, took place considerably earlier than the coding of the software program.

The screen capture in Figure 1 shows the files in a folder called “3c – alpha” which contains the earliest versions of the code for 3-C SCAN program. The files of type “VisualCafe File” that end with the “.java” extension are the actual Java-language source files of the program. Note that JimWindow.java and StudyParms.java, two of the source file components of the 3-C SCAN program were last updated in mid-November of 1999.

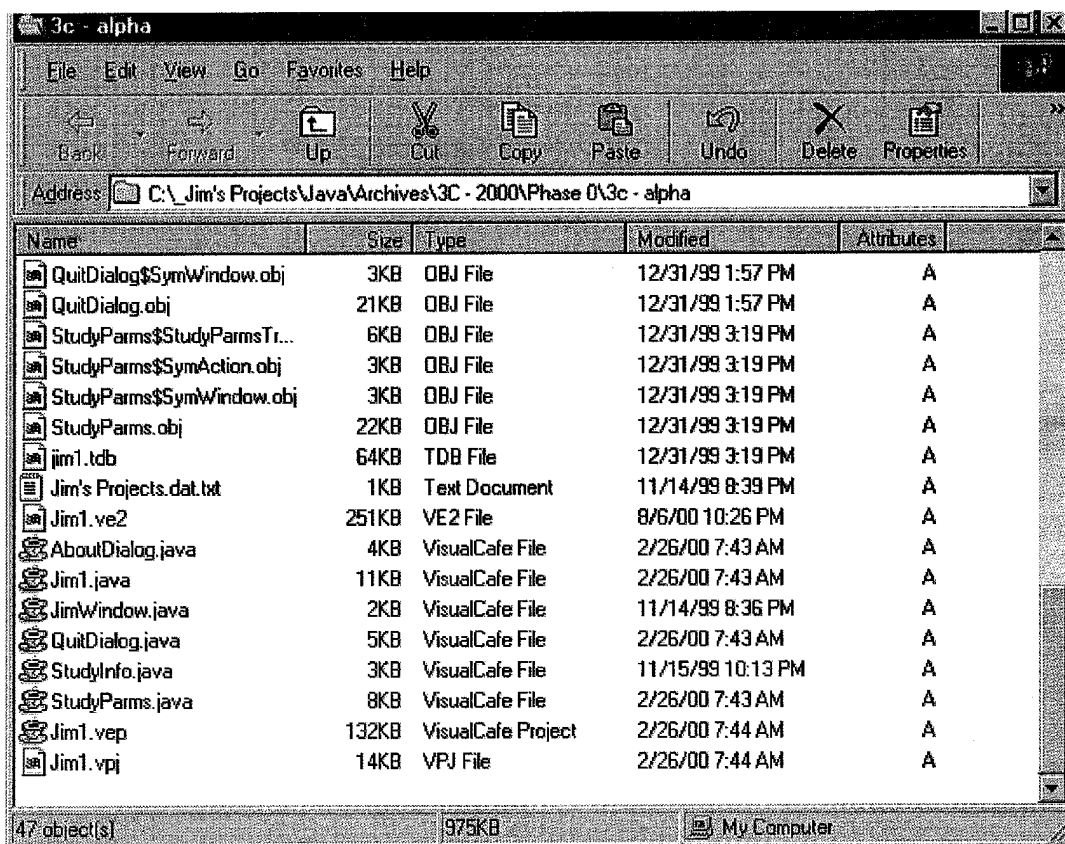
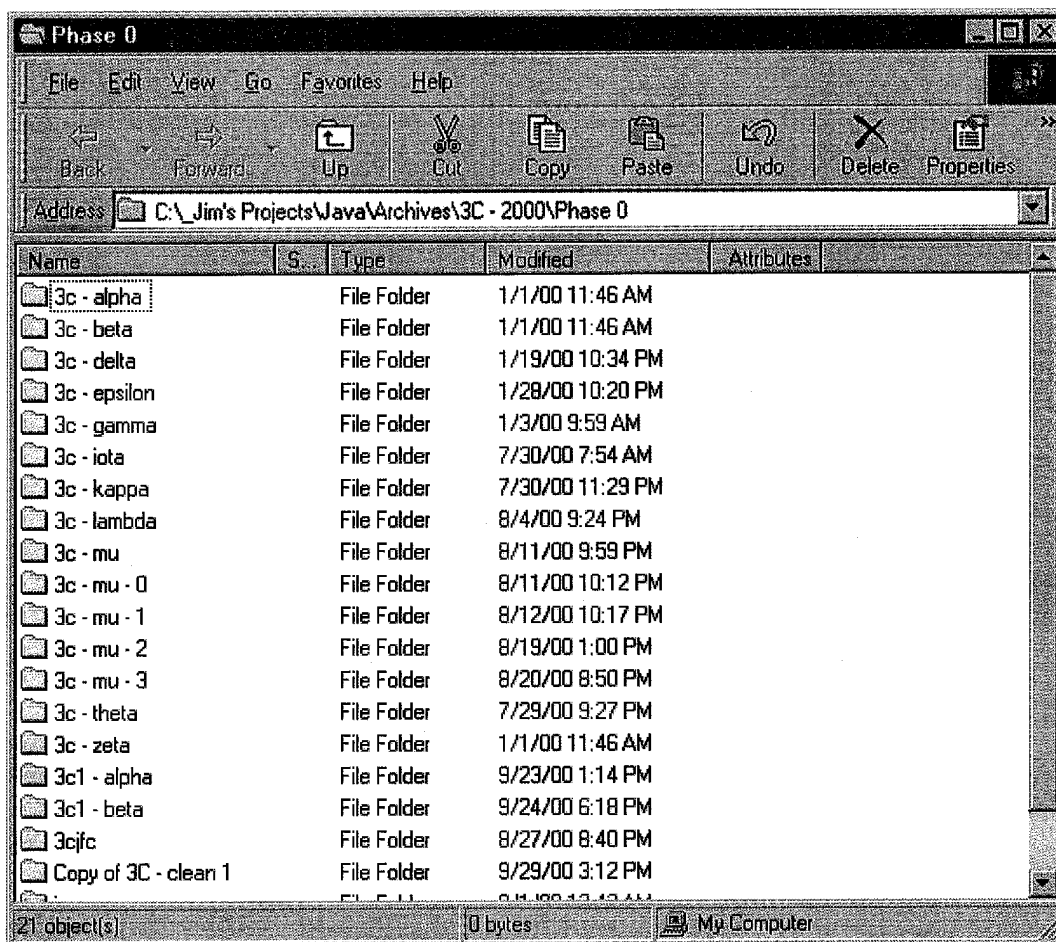


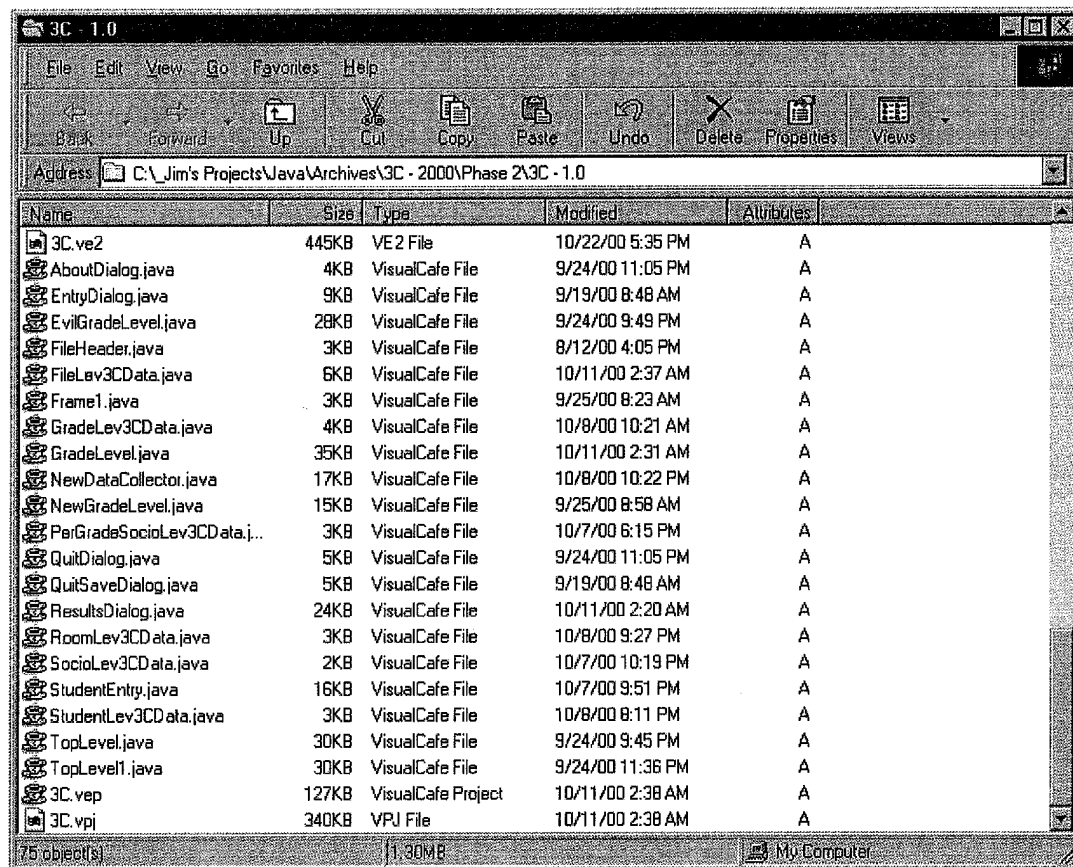
Figure 1 Screen capture of earliest version of 3-C SCAN

Figure 2 shows the progression of SCAN from the “3c – alpha” folder through later versions of the product demarcated with subsequent letters of the Greek alphabet. As these are folders, the modification date reflects the latest date at which a file was added or deleted from the folder.



**Figure 2** Screen capture of several early versions of 3-C SCAN

Finally, Figure 3 shows a snapshot of the first internal release of 3C-SCAN, version 1.0. Of note are the substantial number and sizes of Java code source files that comprise the product at this point. Also note that many of these files were last changed in September of 2000. Taken together, these three figures show that SCAN development began in November of 1999, and that by October of 2000, the program had matured into a substantial releasable product.



**Figure 3** Screen capture of Java source code files for the 1.0 release of SCAN, circa October 2000.